



IFW

Attorney Docket No. **MMR-073/02US**

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of Alex S. GOLDENBERG et al.

Serial No.: 10/671,465

Examiner: Unassigned

Filed: September 29, 2003

Art Unit: 2673

Confirmation No. 7950

For: **CONTROLLING HAPTIC SENSATIONS FOR VIBROTACTILE FEEDBACK  
INTERFACE DEVICES**

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U.S. Patent and Trademark Office  
220 20<sup>th</sup> Street S.  
Customer Window  
Crystal Plaza Two, Lobby, Room 1B03  
Arlington, VA 22202

**INFORMATION DISCLOSURE STATEMENT TRANSMITTAL**

Enclosed is an Information Disclosure Statement and accompanying Form PTO/SB/08A for the above-identified patent application.

- ☒ In accordance with 37 C.F.R. §1.97(b), no additional fee for submission of the IDS is required.
- ☐ In accordance with 37 C.F.R. §1.97(c), also enclosed is:
  - ☐ the fee of \$180.00 as set forth in 37 C.F.R. §1.17(p); or
  - ☐ a statement as specified in 37 C.F.R. §1.97(e).
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- ☐ Check No. \_\_\_ in the amount of \$\_\_\_ for the total fee is attached.
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The Commissioner is hereby authorized to charge any appropriate fees under 37 C.F.R. §§1.16, 1.17, and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 50-1283.

Dated: August 3, 2004

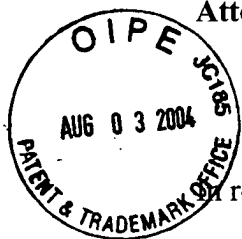
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Respectfully submitted,  
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By: \_\_\_\_\_



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Attorney Docket No. IMMR-073/02US

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**INFORMATION DISCLOSURE STATEMENT  
UNDER 37 C.F.R. §1.97(b)**

In accordance with the duty of disclosure set forth in 37 C.F.R. §1.56,  
Applicant(s) hereby submits the following information in conformance with 37 C.F.R.  
§§1.97 and 1.98.

- ☒ Pursuant to 37 C.F.R. §1.98, a copy of each document cited in the attached Form PTO/SB/08A is provided on the enclosed CD.
- ☐ No copies of the publications listed on the attached Form PTO/SB/08A are being provided pursuant to 37 C.F.R. §1.98(d) because the publications were previously cited by or submitted to the Office in prior Application Serial No. \_\_\_\_, filed \_\_\_\_, to which the above-identified application claims priority under 35 U.S.C. §120.
- ☐ No copies of any U.S. patents or U.S. patent application publications listed on the attached Form PTO/SB/08A are being provided pursuant to 37 C.F.R. §1.98 because this application was filed after June 30, 2003.
- ☐ Publication(s) \_\_\_\_ listed on the attached Form PTO/SB/08A were cited in a foreign search or examination report corresponding to \_\_\_\_ application serial no. \_\_\_\_ and mailed on \_\_\_\_.
- ☐ Enclosed is a copy of a non-English publication(s) \_\_\_\_\_. Pursuant to §609 of the M.P.E.P., Applicant submits the attached foreign search or examination report, which cites such non-English language publication(s).
- ☐ Enclosed is a copy of a non-English publication(s) \_\_\_\_\_. English language publication \_\_\_\_ (copy enclosed) claims priority from this non-English publication.

- ☐ Enclosed is an explanation of non-English publication(s) \_\_\_ for which an English translation is not available.
- ☐ Enclosed is an English translation of non-English publication(s) \_\_\_ cited in the attached Form PTO/SB/08A.
- ☐ Enclosed is a copy of pending patent Application Serial No. \_\_\_.

This Information Disclosure Statement is filed within any one of the following time periods:

- ☐ within three months from the filing date of this national application other than a CPA under 37 C.F.R. § 1.53(d);
- ☐ within three months from the date of entry of the national stage as set forth in 37 C.F.R. § 1.491 in this international application;
- ☒ before the mailing date of a first office action on the merits; or
- ☐ before the mailing of a first office action after the filing of a request for continued examination under 37 C.F.R. § 1.114.


It is respectfully requested that the Examiner consider the above-noted information and return an initialed copy of the attached Form PTO/SB/08A to the undersigned.

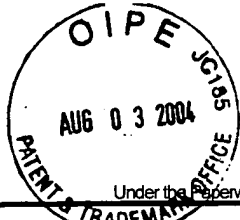
Dated: August 3, 2004

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COOLEY GODWARD LLP

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Erik B. Milch  
Reg. No. 42,887



PTO/SB/08A (10-01)  
Approved for use through 10/31/2002. OMB 0651-0031  
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## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1 of 6

### Complete if Known

Application Number	10/671,465
Filing Date	September 29, 2003
First Named Inventor	Alex S. Goldenberg
Art Unit	2673
Examiner Name	Unassigned
Attorney Docket Number	IMMR-073/02US

### U.S. PATENT DOCUMENTS

Examiner	Cite No. <sup>1</sup>	Document Number Number Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		20030201975	10/30/03	Bailey et al.	
		20020030663	3/14/02	Tierling et al.	
		6,717,573	4/6/04	Shaholian et al.	
		6,707,443	3/16/04	Bruneau et al.	
		6,697,043	2/24/04	Shaholian et al.	
		6,585,595	7/1/03	Soma et al.	
		6,422,941	7/23/2002	Thorner et al.	
		6,317,032	11/13/01	Oishi	
		6,211,861	4/3/01	Rosenberg et al.	
		6,198,206	3/6/01	Saarmaa et al.	
		6,184,868	2/6/01	Shaholian et al.	
		6,160,489	12/12/2000	Perry et al.	
		6,111,577	8/29/2000	Zilles et al.	
		6,104,158	8/5/00	Jacobus et al.	
		6,088,019	7/11/00	Rosenberg	
		6,078,126	6/20/00	Rollins et al.	
		6,044,646	4/4/00	Silverbrook	
		6,004,134	12/21/99	Marcus et al.	
		6,001,014	12/14/99	Ogata et al.	
		5,986,643	11/16/99	Harvill et al.	
		5,984,880	11/16/99	Lander et al.	
		5,973,670	10/26/99	Barber et al.	
		5,945,772	8/31/99	Macnak et al.	
		5,914,705	6/22/99	Johnson et al.	
		5,897,437	4/27/99	Nishiumi et al.	
		5,894,263	4/13/99	Shimakawa et al.	
		5,889,672	3/30/99	Schuler et al.	
		5,857,986	1/12/99	Moriyasu	
		5,805,140	9/8/98	Rosenberg et al.	
		5,790,108	8/4/98	Salcudean et al.	
		5,784,052	7/21/98	Keyson	
		5,781,172	7/14/98	Engel et al.	
		5,754,023	5/19/98	Roston et al.	
		5,742,278	4/21/98	Chen et al.	
		5,739,811	4/14/98	Rosenberg et al.	

Examiner  
Signature

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<sup>1</sup> EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>2</sup> Applicant's unique citation designation number (optional). <sup>3</sup> Kind Codes of U.S. Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>4</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>5</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>6</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>7</sup> Applicant is to place a check mark here if English language Translation is attached.

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Sheet **2** of **6**

## Complete if Known

Application Number	10/671,465
Filing Date	September 29, 2003
First Named Inventor	Alex S. Goldenberg
Art Unit	2673
Examiner Name	Unassigned
Attorney Docket Number	IMMR-073/02US

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		5,714,978	2/3/98	Yamanaka et al.	
		5,709,219	1/20/98	Chen et al.	
		5,690,582	11/25/1997	Ulrich et al.	
		5,684,722	11/4/97	Thomer et al.	
		5,669,818	9/23/97	Thomer et al.	
		5,661,446	8/26/97	Anderson et al.	
		5,643,087	7/1/97	Marcus et al.	
		5,631,861	5/20/97	Kramer	
		5,619,180	4/8/97	Massimino et al.	
		5,589,828	12/31/96	Armstrong	
		5,587,937	12/24/96	Massie et al.	
		5,583,478	12/10/96	Renzi	
		5,580,251	12/3/96	Gilkes et al.	
		5,575,761	11/19/1996	Hajianpour	
		5,565,840	10/15/96	Thomer et al.	
		5,440,183	8/8/95	Denne	
		5,437,607	8/1/1995	Taylor	
		5,436,622	7/25/1995	Gutman et al.	
		5,405,152	4/11/95	Katanics et al.	
		5,399,091	3/21/95	Mitsumoto	
		5,388,992	2/14/95	Franklin et al.	
		5,354,162	10/11/94	Burdea et al.	
		5,283,970	2/8/1994	Aigner	
		5,203,563	4/20/93	Loper, III	
		5,186,695	2/16/1993	Mangseth et al.	
		5,186,629	2/16/93	Rohen	
		5,184,319	2/2/93	Kramer	
		5,175,459	12/29/1992	Danial et al.	
		5,165,897	11/24/1992	Johnson	
		5,146,566	9/8/92	Hollis, Jr. et al.	
		5,107,262	4/21/92	Cadoz et al.	
		5,103,404	4/7/92	McIntosh	
		5,022,384	6/11/1991	Freels	
		4,885,565	12/5/1989	Embach	
		4,868,549	9/19/89	Affinito et al.	

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Signature

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		4,795,296	1/3/89	Jau	
		4,731,603	3/15/88	McRae et al.	
		4,706,294	11/10/87	Ouchida	
		4,484,191	11/20/1984	Vavra	
		4,464,117	8/7/1984	Foerst	
		4,414,984	11/15/83	Zarudiansky	
		4,333,070	6/1/1982	Barnes	
		4,262,549	4/21/1981	Schwellenbach	
		4,127,752	11/28/1978	Lowthorp	
		3,919,691	11/11/75	Noll	
		2,972,140	2/14/1961	Hirsch	
		RE37,374	9/18/01	Roston et al.	

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Country Code <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)			
		JP	H2-185278		7/19/1990	Taito Corporation	
		JP	H4-8381		1/13/1992	Epoch Co. and Key- Planning Co.	
		JP	H7-24147		1/27/1995	Sega Corporation	
		JP	H5-192449		8/3/1993	Taito Corporation	
		WO	92/00559		1/9/1992		
		EP	0607580	A1	7/27/1994		
		EP	0265011		4/27/1988		
		EP	0626634	A2	5/11/1994		
		WO	01/03105		1/11/2001		
		WO	01/24158		4/5/2001		
		WO	97/31333		8/28/1997		
		WO	01/13354		2/22/2001		
		WO	98/32112		7/23/19.98		
		WO	99/40504		12/8/1999		
		WO	02/27705		4/4/2002		

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Sheet

4

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September 29, 2003

First Named Inventor

Alex S. Goldenberg

Art Unit

2673

Examiner Name

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Attorney Docket Number

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**OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS**

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
		PATRICK, "Design, Construction, and Testing of a Fingertip Tactile Display for Interaction with Virtual and Remote Environments," <i>Master of Science Thesis</i> , MIT, Aug. 1990, archived Nov. 8, 1990.
		CALDER, "Design of A Force-Feedback Touch-Introducing Actuator For Teleoperator Robot Control," <i>Bachelor of Science Thesis</i> , MIT, May 1983, archived June 23, 1983.
		WIKER, "Teletouch Display Development: Phase 1 Report," <i>Technical Report 1230</i> , Naval Ocean Systems Center, San Diego, July 1988.
		BLISS, "Optical-to-Tactile Image Conversion for the Blind," <i>IEEE Transactions on Man-Machine Systems</i> , Vol. MMS-11, No. 1, March 1970.
		JOHNSON, "Shape-Memory Alloy Tactile Feedback Actuator," <i>Armstrong Aerospace Medical Research Laboratory</i> , AAMRL-TR-90-039, August, 1990.
		KONTARINIS et al., "Tactile Display of Vibratory Information in Teleoperation and Virtual Environments," <i>PRESENCE</i> , 4(4):387-402, Harvard Univ., 1995.
		AUKSTAKALNIS et al., "Silicon Mirage: The Art and Science of Virtual Reality," ISBN 0-938151-82-7, pp. 129-180, 1992.
		EBERHARDT et al., "Inducing Dynamic Haptic Perception by The Hand: System Description and Some Results," DSC-Vol. 55-1, <i>Dynamic Systems and Control</i> : Volume 1, ASME 1994.
		GOBEL et al., "Tactile Feedback Applied to Computer Mice," <i>International Journal of Human-Computer Interaction</i> , Vol. 7, No. 1, pp. 1-24, 1995.
		PIMENTEL et al., "Virtual Reality: through the new looking glass," 2 <sup>nd</sup> Edition; McGraw-Hill, ISBN 0-07-050167-X, pp. 41-202, 1994.
		"Cyberman Technical Specification," <i>Logitech Cyberman SWIFT Supplement to Logitech Mouse Technical Reference and Programming Guide</i> , 4/5/1994.
		OUHYOUNG et al., "The Development of A Low-Cost Force Feedback Joystick and Its Use in the Virtual Reality Environment," <i>Proceedings of the Third Pacific Conference on Computer Graphics and Applications, Pacific Graphics '95</i> , Seoul, Korea, 21-24 August 1995.
		KACZMAREK et al., "Tactile Displays," <i>Virtual Environment Technologies</i> , Chap. 9, pp. 349-414.
		LAKE, "Cyberman from Logitech," at <a href="http://www.ibiblio.org/GameBytes/issue21/greviews/cyberman.html">http://www.ibiblio.org/GameBytes/issue21/greviews/cyberman.html</a> , 1994.
		"Component Maintenance Manual With Illustrated Parts List, Coaxial Control Shaker Part no. C-25502," Safe Flight Instrument Corporation, Revised 28 January 2002 (3 pages).

Examiner  
Signature

Date

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**OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS**

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
		"Technical Manual Overhaul Instructions With Parts Breakdown, Coaxial Control Shaker Part no. C-25502," Safe Flight Instrument Corporation, Revised 15 July 1980 (23 pages).
		SCANNELL, "Taking a Joystick Ride," <i>Computer Currents</i> , Boston Edition, Vol. 9, No. 11, November 1994
		YAMAKITA et al., "Tele-Virtual Reality of Dynamic Mechanical Model," <i>Proceedings of the 1992 IEEE/RSJ International Conference on Intelligent Robots and Systems</i> , Raleigh, NC, July 7-10, 1992
		NOLL, "Man-Machine Tactile," <i>SID Journal</i> , July/August 1972 Issue.
		ROSENBERG, "Virtual Fixtures: Perceptual Overlays Enhance Operator Performance In Telepresence Tasks," <i>Ph.D. Dissertation</i> , Stanford University, June 1994.
		SCHMILT, Brian et al., "Application Areas for a Force-Feedback Joystick," ASME 1993, DSC-Vol. 49, pp. 47-54.
		HASSER, Christopher John, "Tactile Feedback for a Force-Reflecting Haptic Display," The School of Engineering, University of Dayton, December 1995, pp. iii-xii & 1-96.
		AKAMATSU, M. et al., "Multimodal Mouse: A Mouse-Type Device with Tactile and Force Display," <i>Presence</i> , Vol. 3, No. 1, 1994, pp. 73-80.
		KELLEY, A. J. et al., "MagicMouse: Tactile and Kinesthetic Feedback in the Human-Computer Interface using an Electromagnetically Actuated Input/Output Device," Dept. of Elec. Eng., Univ. of Brit. Columbia, 1993, pp. 1-27.
		HASSER, C. et al., "Tactile Feedback with Adaptive Controller for a Force-Reflecting Haptic Display," <i>Parts 1&amp;2</i> , IEEE 0-7803-3131-1, 1996, pp. 526-533.
		RAMSTEIN, C., "Combining Haptic and Braille Technologies: Design Issues and Pilot Study," <i>ASSETS '96</i> , 2nd Annual ACM Conf. on Assistive Technologies, 1996, pp. 37-44.
		DENNERLEIN, et al., "Vibrotactile Feedback for Industrial Telemanipulators," ASME IMECE, 6th Annual Symp. On Haptic Interfaces for Virtual Environment and Teleoperator Systems, Nov. 1997, pp. 1-7.
		MINSKY, Margaret et al., "Feeling and Seeing: Issues in Force Display," <i>ACM 089791-351-5</i> , 1990, pp. 235-242.
		OUH-YOUNG, M. et al., "Creating an Illusion of Feel: Control Issues in Force Display," <i>Computer Science Dept.</i> , University of North Carolina, 1989, pp. 1-14.
		HASSER, C., "Force-Reflecting Anthropomorphic Hand Masters," <i>AL/CF-TR-1995-0110</i> , 1995, pp. 5-31.

Examiner  
SignatureDate  
Considered

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<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

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STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet **6** of **6****Complete if Known**

Application Number	10/671,465
Filing Date	September 29, 2003
First Named Inventor	Alex S. Goldenberg
Art Unit	2673
Examiner Name	Unassigned
Attorney Docket Number	IMMR-073/02US

**OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS**

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	
		KIM, Won, "Telemanipulator Technology and Space Telerobotics," SPIE Proceedings, 1993, Vol. 2057, pp. 40-50.	

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